

## Appendix A

nop	IGNORE_OPCODE
aconst_null	OP_PUSHB
iconst_ml	OP_PUSHB
iconst_0	OP_PUSHB
iconst_1	OP_PUSHB
iconst_2	OP_PUSHB
iconst_3	OP_PUSHB
iconst_4	OP_PUSHB
iconst_5	OP_PUSHB
lconst_0	OP_PUSHL
lconst_1	OP_PUSHL
fconst_0	OP_PUSH
fconst_1	OP_PUSH
fconst_2	OP_PUSH
dconst_0	OP_PUSHL
dconst_1	OP_PUSHL
bipush	OP_PUSHB
sipush	OP_PUSH
ldc	OP_PUSH
ldc_w	OP_PUSH
ldc2_w	OP_PUSHL
iload	OP_LOAD
lload	OP_LOADL
fload	OP_LOAD
dload	OP_LOADL
aload	OP_LOAD
iload_0	OP_LOAD
iload_1	OP_LOAD
lload_2	OP_LOAD
lload_3	OP_LOAD
Lload_0	OP_LOADL
lload_1	OP_LOADL

Iload_2	OP_LOADL
Lload_3	OP_LOADL
Fload_0	OP_LOADL
Fload_1	OP_LOAD
Fload_2	OP_LOAD
Fload_3	OP_LOAD
Dload_0	OP_LOADL
dload_1	OP_LOADL
Dload_2	OP_LOADL
Dload_3	OP_LOADL
Aload_0	OP_LOAD
Aload_1	OP_LOAD
Aload_2	OP_LOAD
Aload_3	OP_LOAD
Iaload	OP_ALOAD
Laload	OP_ALOAD
Faload	OP_ALOAD
Daload	OP_ALOAD
Aaload	OP_ALOAD
Baload	OP_ALOAD
Caload	OP_ALOAD
Saload	OP_ALOAD
Istore	OP_STOR
Lstore	OP_STORL
Fstore	OP_STOR
Dstore	OP_STORL
Astore	OP_STOR
Istore_0	OP_STOR
Istore_1	OP_STOR
Istore_2	OP_STOR
Istore_3	OP_STOR
1 <sup>st</sup> ore_0	OP_STORL
1 <sup>st</sup> ore_1	OP_STORL
Lstore_2	OP_STORL
1 <sup>st</sup> ore_3	OP_STORL

Fstore_0	OP_STOR
Fstore_1	OP_STOR
Fstore_2	OP_STOR
Fstore_3	OP_STOR
Dstore_0	OP_STORL
Dstore_1	OP_STORL
Dstore_2	OP_STORL
Dstore_3	OP_STORL
Astore_0	OP_STOR
Astore_1	OP_STOR
Astore_2	OP_STOR
Astore_3	OP_STOR
Iastore	OP_ASTORE
Lastore	OP_ASTOREL
Fastore	OP_ASTORE
Dastore	OP_ASTOREL
Aastore	OP_ASTORE
Bastore	OP_ASTORE
Castore	OP_ASTORE
Sastore	OP_ASTORE
Pop	OP_POP
Pop2	OP_POP
Dup	OP_DUP
Dup_x1	OP_DUP
Dup_x2	OP_DUP
Dup2	OP_DUPL
Dup2_x1	OP_DUPL
Dup2_x2	OP_DUPL
Swap	OP_SWAP
Iadd	OP_IADD
Ladd	OP_LADD
Fadd	OP_FADD
Dadd	OP_DADD
Isub	OP_ISUB
Lsub	OP_LSUB

Fsub	OP_FSUB
Dsub	OP_DSUB
Imul	OP_IMUL
Lmul	OP_LMUL
Fmul	OP_FMUL
Dmul	OP_DMUL
Idiv	OP_IDIV
Ldiv	OP_LDIV
Fdiv	OP_FDIV
Ddiv	OP_DDIV
Irem	OP_IREM
Lrem	OP_LREM
Frem	OP_FREM
Drem	OP_DREM
Ineg	OP_INEG
Lneg	OP_LNEG
Fneg	OP_FNEG
Dneg	OP_DNEG
Ishl	OP_ISHL
Lshl	OP_LSHL
Ishr	OP_ISHR
Lshr	OP_LSHR
Iushr	OP_IUSHR
Lushr	OP_LUSHR
Iand	OP_IAND
Land	OP_LAND
Ior	OP_IOR
Lor	OP_LOR
Ixor	OP_IXOR
Lxor	OP_LXOR
Iinc	OP_IINC
i2l	OP_I2L
i2f	IGNORE_OPCODE
i2d	OP_I2D
l2i	OP_L2I

12f	OP_L2F
12d	OP_L2D
f2I	IGNORE_OPCODE
f2l	OP_F2L
f2d	OP_F2D
d2I	OP_D2I
d2l	OP_D2L
d2f	OP_D2F
i2b	IGNORE_OPCODE
i2c	IGNORE_OPCODE
i2s	IGNORE_OPCODE
Lcmp	OP_LSUB, OP_JMPEQ
Fcmpl	OP_FSUB, OP_JMPLE
Fcmpg	OP_FSUB, OP_JMPGE
Dcmpl	OP_DCMP, OP_JMPLE
Dcmpg	OP_DCMP, OP_JMPGE
Ifeq	OP_JMPEQ
Ifne	OP_JMPNE
Iflt	OP_JMPLT
Ifge	OP_JMPGE
Ifgt	OP_JMPGT
Ifle	OP_JMPLE
if icmpeq	OP_ISUB, OP_JMPEQ
if icmpne	OP_ISUB, OP_JMPNE
if icmplt	OP_ISUB, OP_JMPLT
if icmpge	OP_ISUB, OP_JMPGE
if icmpgt	OP_ISUB, OP_JMPGT
if icmple	OP_ISUB, OP_JMPLE
if acmpeq	OP_ISUB, OP_JMPEQ
if acmpne	OP_ISUB, OP_JMPNE
Goto	OP_JMP
Jsr	OP_JSR
Ret	OP_RET
Tableswitch	OP_SWITCH
Lookupsuitch	OP_SWITCH

Ireturn	OP_RETURN
Lreturn	OP_LRETURN
Freturn	OP_RETURN
Dreturn	OP_LRETURN
Areturn	OP_RETURN
Return	OP_RETURNV
Getstatic	OP_RESOLVE
Putstatic	OP_RESOLVEP
Getfield	OP_RESOLVE
putfield	OP_RESOLVEP
invokevirtual	OP_RESOLVE
invokespecial	OP_RESOLVE
invokestatic	OP_RESOLVE
invokeinterface	OP_RESOLVE
xxxunusedxxx	IGNORE_OPCODE
new	OP_NEW
newarray	OP_NEW
anewarray	OP_NEW
arraylength	OP_ARRAYLENGTH
athrow	OP_THROW
checkcast	IGNORE_OPCODE
instanceof	OP_INSTANCEOF
monitorenter	OP_MUTEXINC
monitorexit	OP_MUTEXDEC
wide	OP_WIDE
multianewarray	OP_NEW
ifnull	OP_JMPEQ
ifnonnull	OP_JMPNE
goto_w	OP_JMP
jsr_w	OP_JSR